AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): ~~Demultiplexer~~ A demultiplexer for an optical time-division multiplexed digital signal that has a signal wavelength λ_s and is transmitted with a bit rate B, comprising:

- a Raman active optical medium,
- a pump source for generating a periodic optical pump signal having a pump wavelength λ_p and a periodicity of B/n where n is an integer ≥ 2, and
- a coupler for coupling the digital signal and the pump signal into the Raman active optical medium which displays a non-linear Raman gain function depending exponentially on the power of the pump signal,

wherein the digital signal wavelength λ_s is smaller than the pump wavelength λ_p so that the digital signal is attenuated at time slots that coincide with absorption windows of the Raman gain function.

2. - 4. (canceled).

5. (original): The demultiplexer of claim 1, characterized by tunable delay means for tuning the phase relationship between the pump signal and the digital signal.

6. (original): The demultiplexer of claim 5, wherein the delay means is arranged between the pump source and the coupler.

7. (original): The demultiplexer of claim 1, comprising an optical filter which has a stop band containing the pump wavelength λ_p and which is arranged, in the propagation direction of the signals, behind the Raman active optical medium.

8. (currently amended): ~~Method~~ A method for demultiplexing an optical digital signal having a bit rate B, comprising the steps of:

- generating a periodic optical pump signal having a periodicity of B/n where n is an integer ≥ 2,

- coupling the digital signal and the pump signal into a Raman active optical medium which displays a non-linear Raman gain function depending exponentially on the power of the pump signal, and

choosing the pump wavelength λ_p to be longer than the wavelength λ_s of the digital signal, so that the digital signal is attenuated at time slots that coincide with absorption windows of the Raman gain function.

9. (canceled).